

**IN THE CLAIMS:**

Entry of the following amendments is respectfully requested:

1. (currently amended) A sterilization chamber for sterilizing objects, comprising a vacuum conduit connected to a vacuum pump, also comprising a conduit for a vapor composite consisting of water vapor and hydrogen peroxide vapor, and comprising a conduit for flood gas for application in a process in which the vapor composite is rapidly expanded without carrier gas flow into the sterilization chamber in which a vacuum prevails, wherein expanding and condensing the vapor compound takes place within several tenths of a second ~~up to several seconds~~ such that the vapor composite cools to below the hydrogen peroxide dew point and condenses on all accessible surfaces of the objects to be sterilized and on the surfaces of the sterilization chamber in the form of a sudden condensation layer, the condensation layer being heated up considerably by the release of the evaporation enthalpy, and within seconds, after a short reaction time followed by completely suctioning off the condensation layer by further evacuation of the sterilization chamber at a pressure below 10mb, wherein the surfaces of the sterilization chamber are smooth and made of poor heat-conducting, water-repellent material.

2. (previously presented) A sterilization chamber according to claim 1, wherein its surfaces have a coating of plastic, glass or closed-pore ceramic material.

3. (currently amended) A sterilization chamber according to claim 1,  
further for sterilizing an object with a vapor composite comprising water vapor  
and hydrogen peroxide vapor said sterilization chamber comprising:

component parts which come into contact with a condensation layer, said  
component parts being configured from a material selected from the group  
consisting of plastic, glass or a closed-pore ceramic material.

4. (previously presented) The sterilization chamber of claim 3 further  
comprising a plastic material which forms a coating covering a surface of the  
sterilization chamber.

5. (previously presented) The sterilization chamber of claim 3, wherein  
said component parts are configured from a plastic on a PTFE base.

6. (previously presented) The sterilization chamber of claim 3, wherein  
said component parts are configured from silicon rubber.

7. (previously presented) The sterilization chamber of claim 3, wherein  
said sterilization chamber is provided with first valve means and first conduit  
means for allowing entry and exit of a vapor composite and second valve means  
and second conduit means for applying a vacuum.

8. (previously presented) The sterilization chamber of claim 7, wherein said first conduit means is attached to an evaporator.

9. (previously presented) The sterilization chamber of claim 7, wherein said second conduit means is attached to a vacuum pump.

10. (previously presented) The sterilization chamber of claim 3, wherein said sterilization chamber is provided with a flood gas valve and flood gas conduit which may be used to ventilate the sterilization chamber.

11. (currently amended) A method of sterilizing an object, said method comprising the step of:

exposing an object to a vapor composite which is rapidly expanded within a sterilizing chamber wherein expanding and condensing the vapor composite takes place within several tenths of a second ~~up to several seconds~~ such that the vapor composite cools to below the hydrogen peroxide dew point and condenses on all accessible surfaces of the object, said sterilizing chamber having component parts which come into contact with a condensation layer, said component parts being configured from a material selected from the group consisting of plastic, glass or a closed-pore ceramic material.

12. (previously presented) The method of claim 11, further comprising the steps of:

evacuating the sterilization chamber using a vacuum pump;  
providing the vapor composite to the sterilization chamber to form the condensation layer;  
removing the condensation layer; and  
ventilating the sterilization chamber.

13. (previously presented) The method of claim 12, wherein said step of evacuating the sterilization chamber further comprises the step of isolating the sterilization chamber from the vacuum pump with a valve.

14. (previously presented) The method of claim 11, wherein said vapor composite comprises water and hydrogen peroxide.

15. (previously presented) The method of claim 12, wherein said step of removing the condensation layer further comprises evacuating the sterilization chamber.

16. (previously presented) The method of claim 15, wherein said step of evacuating the sterilization chamber is conducted at a pressure of from 10 mb to 1 mb.

17. (previously presented) The method of claim 15, wherein said step of evacuating the sterilization chamber is conducted at a pressure of approximately 1 mb.

18. (previously presented) The method of claim 11, wherein said step of removing the condensation layer is performed after a predetermined reaction time.